



CleanWorld
Alive with possibilities



A HIGHER STANDARD OF RESPONSIBILITY
WASTE & RECYCLING SERVICES



Service, Stewardship and Sustainability



WASTE ZERO



Environmental Services



SANITATION DISTRICTS OF LOS ANGELES COUNTY



WESTHOFF, CONE & HOLMSTEDT



Market Opportunity in California



- More than 500 WWTFs, 278 landfills, 1600 dairies in CA
- 16 million tons/year organic waste is landfilled in CA
- CA could produce **500 Million to 1 Billion diesel gallon equivalents per year** from biomethane and organic waste
- Very low- and carbon-negative transportation fuels

BENEFITS OF FUELS FROM ORGANIC WASTE

- Lowest Carbon Fuels Available – Often carbon negative
- Help reduce petroleum dependence, air and water pollution, greenhouse gas emissions
- Reduce landfilling and help meet California's 75% waste diversion goal
- Reduce toxic air contaminants, environmental justice impacts from diesel pollution
- Provide jobs and economic development in every region of the state



Fuels from Wastewater Treatment Facilities

- WWTF's could produce 53 million gallons of low-carbon fuels per year
- With co-digestion, could produce >150 million gallons per year
- Fuels from Large WWTF's are carbon negative (-65.3 CO₂e/MJ)
- Transportation fuels from small to medium WWTF's are ultra low-carbon (11.5 grams CO₂e/MJ)



Fuels from Other Organic Waste Sources



- Diverted organic waste can produce 168 million gallons of carbon negative fuels
- Landfill gas can produce 121 million gallons
- Dairy waste can produce 184 million gallons



CHALLENGES TO BIOMETHANE DEVELOPMENT

- Uncertainty about long-term policy context = difficulty securing financing
- Pipeline access and costs
- Outdated agency rules – CEC and CalRecycle requirements
- Permitting timelines and uncertainty



Opportunities to Expand Bioenergy



- AB 118 / AB 8 – Funding for Clean Fuels, including Biofuels
- AB 1900 – New Pipeline Biogas Standards
- Cap & Trade Revenues
- Policies to Reduce Landfilling of Organic Waste – AB 1826 (Chesbro)
- Green Credit Bank to Guarantee Low Carbon Fuel Credits



Clean Fuels and Alternative Transportation

- Includes \$20 million per year for biofuels – not enough!!
- \$9 million for natural gas vehicle deployment
- \$15 million for medium and heavy duty advanced vehicle demonstration
- \$1.5 million for natural gas fueling infrastructure



AB 1900 – New Pipeline Standards



- AB 1900 intended to facilitate pipeline biogas injection
- Standards for 12 constituents of concern for public health
- 5 additional constituents of concern for pipeline integrity
- CPUC will maintain 990 BTU heating value
- Second phase of proceeding will address cost allocation and interconnection issues

Cap & Trade Revenues



- Governor's Proposed Budget for 2014-15 Includes:
- \$30 million for diverted organic waste – composting and AD
- \$20 million for dairy and agricultural reductions
- \$200 million for clean vehicle infrastructure

Green Credit Reserve (AB 2390)

- AB 2390 would establish a Green Credit Reserve
- Provides long-term price certainty and market for LCFS credits
- Will enable project developers to secure financing
- State will contract to buy LCFS credits during project development, but only purchase when fuels are sold and credits produced



THANK YOU !!



www.BioenergyCA.org